

Remarks

Status of application

Claims 1-55 were examined and stand rejected in view of prior art. In view of the amendments to the claims and the remarks presented below, reexamination and reconsideration are respectfully requested

Prior art rejections

Applicant appreciates the courtesy of a telephone interview with the Examiner on October 7, 2010 to discuss the distinctions between Applicant's claimed invention and the prior art of record. Although Applicant respectfully continues to believe that Applicant's invention is distinguishable from Brown and O'Farrell, Applicant has amended independent claims 1, 22 and 40 further to the discussion with the Examiner to include the limitations of Applicant's dependent claim 13 which include using a "shadow" table as a cache for data associated with a web service to enable Applicant's invention to more efficiently handle calls to the web service. (Applicant has also amended certain dependent claims based on these amendments and has canceled claim 43.) For example, Applicant's amended claim 1 provides as follows:

A method for performing database operations on data obtained from a web service, the method comprising:
creating at least one proxy table in a database, each proxy table mapping to a method of the web service, wherein said at least one proxy table is automatically created based on a Web Services Description Language (WSDL) description of the web service;
automatically generating meta data about the mapping and storing the meta data in a database table of the database;
creating a shadow table in the database associated with the web service;
in response to a database operation on a particular proxy table, using the meta data for converting the database operation into a format for invoking a particular method of the web service based upon the corresponding mapping, **wherein a row is inserted into the shadow table in response to a database operation including an insert on the particular proxy table;**
invoking the particular method of the web service using data in the shadow table as input parameters for invoking the web service;
converting results obtained from invoking the particular method into data for use at the database based upon the corresponding mapping;
performing the database operation on the data at the database to generate a result set; and

returning the result set in response to the database operation.

(Applicant's amended claim 1, emphasis added)

As illustrated above, the shadow table of Applicant's invention operates as a cache for data used to invoke the web service (see e.g., Applicant's specification, paragraph [0098]). In response to an insert statement on a proxy table representing a remote web service, a row is inserted into the shadow table (see e.g., Applicant's specification, paragraph [0097]). Subsequently, when a SELECT * statement or a SELECT statement that chooses an output parameter of the web service is executed (see e.g., Applicant's specification, paragraph [0099]), the web service is executed with the parameters stored in the shadow table. These features provide better performance in that data is cached locally. Also, Applicant's approach avoids the need to invoke the web service when it is not necessary do so. The shadow table is also used to cache the results of queries so that subsequent queries do not have to invoke the web service, but can instead pull data from the shadow table.

The Examiner acknowledges that neither Brown nor O'Farrell teach or suggest inserting a row into a shadow database table or using the data inserted into the shadow table when the web service represented by the table is subsequently invoked. The Examiner, therefore, adds U.S. Patent 7,133,907 to Carlson et al (hereinafter "Carlson") as providing such teachings. However, Carlson is distinguishable in a number of respects.

Carlson describes a solution for configuring multiple resources in a system (Carlson, Abstract). Carlson's system, therefore, is focused on addressing a very different set of problems than those addressed by Applicant's solution that is focused on integrating a web service into a relational database management system. Additionally, the specific teachings of Carlson referenced by the Examiner in the office action (Carlson, column 1, line 41 to column 2, line 4) discuss the addition or modification of the allocation of storage resources in a Storage Area Network (SAN). Applicant respectfully fails to understand how Carlson's discussion of the configuration of storage area networks teaches or suggests anything at all comparable to the shadow table of Applicant's claimed invention. In fact, Applicant's review of the cited teachings as well

as the balance of reference finds that Carlson makes **no** mention of a shadow table or, more particularly, of inserting a row into a shadow table associated with a proxy table representing a web service in response to insert operation on the proxy table. Applicant does not believe Carlson suggests anything remotely analogous to the specific limitations of Applicant's independent claims (e.g., amended claim 1) for at least the reasons set forth above.

Applicant has also amended certain of its dependent claims to add additional distinctive features about use of the shadow table to cache query results. For example, Applicant's amended claim 41 includes the following claim limitations:

The method of claim 40, wherein said step of invoking the function includes storing the results in the shadow table associated with the database table.

(Applicant's amended claim 41)

These features are described in Applicant's specification (see e.g., Applicant's specification paragraphs [0084], [0098], [0099]) and serve provide better performance in that data is cached locally. For example, if all parameters already exist in the shadow table, the web service does not need to be invoked (see e.g., Applicant's specification, paragraph [0099]). Thus, Applicant's approach of storing input parameters and results in the shadow table avoids the need to invoke the remote web service when results from a prior invocation with the same input parameters are stored locally in the shadow table.

As discussed in detail above and in Applicant's previously filed amendments, the prior art references, whether alone or in combination, do not include all the limitations of Applicant's amended claims. In particular none of the prior art references provide any teaching or suggestion of a shadow table that is associated with each proxy table representing a web service and used as a data cache for input and output data. For the reasons stated, it is respectfully submitted that Applicant's claims 1-42 and 44-55 distinguish over the prior art and overcome any rejection under Section 103.

Any dependent claims not explicitly discussed are believed to be allowable by virtue of dependency from Applicant's independent claims, as discussed in detail above.

Conclusion

In view of the foregoing remark and the amendments to the claims, Applicant respectfully believes that Applicant's claimed invention is distinguishable from the prior art of record and that the claims are now in condition for allowance.

If for any reason the Examiner feels that a telephone conference would in any way expedite prosecution of the subject application, the Examiner is invited to telephone the undersigned at 925 465 0361.

Respectfully submitted,

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